

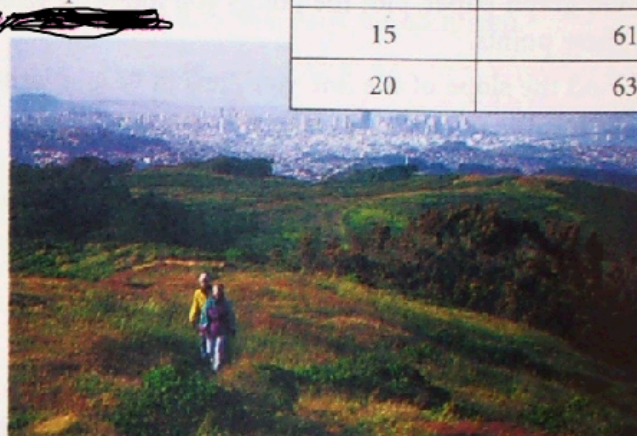
2/8/10

12. On Saturday morning, Avery took a hike in the hills near her house. The table shows the cumulative number of calories she burned from the time she went to sleep Friday night until she finished her hike.

Avery's Hike

Time spent hiking (min)	Cumulative number of calories burned
5	568
10	591
15	614
20	637

- Write a point-slope equation of a line that fits the data.
- Rewrite your equation from 12a in intercept form.
- What are the real-world meanings of the slope and the y-intercept in this situation?
- Could you use the point-slope equation $y = 821 + 4.6(x - 60)$ to model this situation? Explain why or why not.
- What is the real-world meaning of the point used to write the equation in 12d?



$$\frac{591 - 568}{10 - 5} = \frac{23}{5} \approx 4.6$$

$$y = mx + b$$

\downarrow slope \downarrow y-int

$$\textcircled{b} \quad y = 4.6x + 545$$

$$y = m(x - x_1) + y_1$$

\downarrow slope \downarrow pt

$$\textcircled{a} \quad y = 4.6(x - 5) + 568$$

$$y = 4.6(0 - 5) + 568$$

$$y = 4.6 \cdot -5 + 568$$

$$= 545$$

11. APPLICATION Dorine subscribes to an Internet service with a flat rate per month for up to 15 hours of use. For each hour over this limit, there is an additional per-hour fee. The table shows data about Dorine's first two bills.

Internet Use

Month	Logged on (hr)	Monthly fee (\$)
January	20	15.20
February	23	17.75

- Define your variables and use the data in the table to write an equation in point-slope form that models Dorine's total fee. $y = 15.20 + 0.85(x - 20)$
- During March, Dorine was incorrectly charged \$20 for being logged on for 25 hours. What should be her correct total fee? **\$19.45**
- In April, Dorine was logged on for 14 hours. What was her total fee that month? Explain why you can't use your equation to answer this question. (Hint: Reread the problem carefully.)
- How many hours was Dorine logged on during a month when her fee was \$23.70? **30 hours**

U.S. Life Expectancy at Birth

Birth year	Female	Male	Combined
1940	65.2	60.8	62.9
1950	71.1	65.6	68.2
1960	73.1	66.6	69.7
1970	74.7	67.1	70.8
1975	76.6	68.8	72.6
1980	77.5	70.0	73.7
1985	78.2	71.2	74.7
1990	78.8	71.8	75.4
1995	78.9	72.5	75.8
1998	79.4	73.9	76.7

(2000 World Almanac, p. 891)

L1 L2

for females

1) Graph the data on graph paper (use 40, 50, etc. instead of 1940, 1950...).

For Males - plot data on calc,

2) Pick 2 representative points and write an equation to model the data.

3) Predict the life expectancy of someone born in 2020.

• **STAT** → Edit

• 2nd **Y=** → turn plot on

• **Window** → pick good window

HW

Do Sect. 5.5 # 1, 2, and 4

- Turn in calc.
- Turn in classwork
- Sit down